REPORT OF ANALYTICAL RESULTS

Case Number V0526-04

Prepared for:

Attn: Neeraj Ghai
AECOM
2 Technology Park Drive
Westford, MA 01886-3140

JUL 15 2010

Report Date: June 3, 2009

Lab # RI010

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Avenue, North Providence, RI 02904
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Total # of Pages: 27

ANALYTICAL METHOD REPORT CERTIFICATION FORM

Laboratory Name: New England Testing Laboratory, Inc.	Project #: 60139393-300
Project Location: BMR Garage	RTN[1]:
This form provides certifications for the following data set: V0526-04	
Sample Matrices: Groundwater (X) Soil/Sediment ( ) Drinking Water ( ) Other:	

SW-846 Methods Used					
	8260B (X)	8151A ( )	8330 ( )	6010B (X)	7470A/1A ( )
	8270C (X)	8081A ( )	VPH ( )	6020 ( )	9014M[2] ( )
	8082 ( )	8021B ( )	EPH ( )	7000 S[3] ( )	Other: (X)

1 List Release Tracking Number (RTN), if known
2 M – SW-846 Method 9014 or MADEP Physiologically Available Cyanide (PAC) Method
3 S – SW-846 Methods 7000 Series List individual method and analyte

An affirmative response to questions A, B, and C is required for "Presumptive Certainty" status

A	Were all samples received by the laboratory in a condition consistent with that described on the Chain-of Custody documentation for the data set?	Yes (X) No[1] ( )
B	Were all QA/QC procedures required for the specified analytical method(s) included in this report followed, including the requirement to note and discuss in a narrative QC data that did not meet appropriate performance standards or guidelines?	Yes (X) No[1] ( )
C	Does the analytical data included in this report meet all the requirements for "Presumptive Certainty", as described in Section 2.0 of the MADEP document CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	Yes (X) No[1] ( ) Not Applicable ( )
D	***VPH and EPH Methods only***: Was the VPH and EPH Method conducted without significant modifications (see Section 11.3 of respective Methods)	Yes ( ) No[1] ( )

A response to questions E and F below is required for "Presumptive Certainty" status

E	Were all QC performance standards and recommendations for the specified methods achieved?	Yes (X) No[1] ( )
F	Were results for all analyte-list compounds/elements for the specified method(s) reported?	Yes ( ) No[1] (X)

[1]*All NO answers must be addressed in an attached Environmental Laboratory case narrative.*

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Signature: _____ Position: Laboratory Director

Printed Name: Richard Warila Date: 6/3/2010

SAMPLES SUBMITTED and REQUEST FOR ANALYSIS:

The samples listed in Table I were submitted to New England Testing Laboratory on May 26, 2010. The group of samples appearing in this report was assigned an internal identification number (case number) for laboratory information management purposes. The client's designations for the individual samples, along with our case numbers, are used to identify the samples in this report. The case number for this sample submission is V0526-04.

Custody records are included in this report.

Project: Lyme Garage

TABLE I, Samples Submitted

Sample ID	Date Sampled	Matrix	Analysis Requested
System Influent	5/25/10	Water	Table III
Intermediate	5/25/10	Water	Table II
System Effluent	5/25/10	Water	Table IV
Trip Blank	5/25/10	Water	VOCs only

TABLE II, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
BTEX	5030B	8260B

TABLE III, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Polynuclear Aromatic Hydrocarbons*	NA	625
Acetone	5030B	8260B
Total Recoverable Metals		
Chromium	NA	200.7
Iron	NA	200.7
Nickel	NA	200.7
Zinc	NA	200.7
Hexavalent Chromium	NA	3500 Cr-B (20) Cr-D (18,19)
Trivalent Chromium	NA	Calculation

TABLE IV, Analysis and Methods

ANALYSIS	PREPARATION METHOD	DETERMINATIVE METHOD
Total Copper	NA	200.7
Residual Chlorine	NA	4500 Cl-G
pH	NA	4500 H-B

*Compound list supplied by client

These methods are documented in:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846, USEPA.

40 CFR 136, *Guidelines Establishing Test Procedures for the Analysis of Pollutants Under the Clean Water Act*, Office of Federal Register National Archives and Records Administration.

CASE NARRATIVE:

Sample Receipt:

No sample for ms/msd/duplicate analysis was supplied. No trip blank or field blank was supplied. (This does not qualify the analytical results but does prevent conducting these SW-846 {Chapter 1, Section 3.4} QA Audits.)

The samples were all appropriately cooled and preserved upon receipt.

The samples were received in the appropriate containers.

The chain of custody was adequately completed and corresponded to the samples submitted.

Metals:

All analyses were performed according to NETLAB's documented Standard Operating Procedures, within all required holding times, and with appropriate quality control measures. All QC was within laboratory established acceptance criteria. The samples were received, processed, and reported with no anomalies. A concentration was performed on the samples to achieve the desired reporting limit.

Volatile Organics:

All samples were analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Semivolatiles (Group I PAHs):

All samples were extracted and analyzed within method specified holding times and according to NETLAB's documented standard operating procedures. The results for the associated calibration, method blank and laboratory control sample (LCS) were within method specified quality control criteria.

Wet Chemistry:

pH: The pH analysis was performed after the method specified hold time of "immediately after collection".

Residual Chlorine: The appropriate quality control requirements were within limits.

Hexavalent Chromium: The appropriate quality control requirements were within limits.

METALS RESULTS

Case Number: V0526-04
Sample ID: SYSTEM INFLUENT
Date collected: 05/25/10
Matrix WATER
Sample Type: TOTAL

Analyst MG/MT

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Chromium	7440-47-3	NA	200.7	ND	0.001	0.005	mg/l	5/28/10	6/2/10
Iron	7439-89-6	NA	200.7	0.373	0.013	0.05	mg/l	5/28/10	6/2/10
Nickel	7440-02-0	NA	200.7	ND	0.001	0.005	mg/l	5/28/10	6/2/10
Zinc	7440-66-6	NA	200.7	0.033	0.005	0.02	mg/l	5/28/10	6/2/10

ND indicates not Detected

METALS RESULTS

Case Number: V0526-04
Sample ID: SYSTEM EFFLUENT
Date collected: 05/25/10
Matrix WATER
Sample Type: TOTAL

Analyst MG/MT

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Copper	7440-50-8	NA	200.7	0.074	0.005	0.02	mg/l	5/28/10	6/2/10

ND indicates not Detected

METALS RESULTS

Sample ID: METHOD BLANK

Matrix: WATER
Sample Type: Preparation Blank

Analyst: MG/MT

Parameter	CAS Number	Preparative Method	Analytical Method	Result	Reporting Limit	Detection Limit	Units	Date of Preparation	Date Analyzed
Chromium	7440-47-3	NA	200.7	ND	0.001	0.005	mg/l	5/28/10	6/2/10
Copper	7440-50-8	NA	200.7	ND	0.005	0.02	mg/l	5/28/10	6/2/10
Iron	7439-89-6	NA	200.7	ND	0.013	0.05	mg/l	5/28/10	6/2/10
Nickel	7440-02-0	NA	200.7	ND	0.001	0.005	mg/l	5/28/10	6/2/10
Zinc	7440-66-6	NA	200.7	ND	0.005	0.02	mg/l	5/28/10	6/2/10

ND indicates not Detected

LABORATORY CONTROL SAMPLE RECOVERY

Parameter	True Value	Result	Units	Recovery, %	Internal LCL, %	Internal UCL, %	Date Analyzed
Chromium	1.00	1.08	mg/l	108	80	110	6/2/10
Copper	1.00	1.07	mg/l	107	80	112	6/2/10
Iron	10.00	1.07	mg/l	11	80	119	6/2/10
Nickel	1.00	0.99	mg/l	99	80	120	6/2/10
Zinc	1.00	1.04	mg/l	104	80	105	6/2/10

RESULTS: SEMIVOLATILE ORGANIC COMPOUNDS

The presence of the NETLAB LOGO in the top right corner of each page in this section indicates:

The Technical Manager of the Organics Analysis Department certifies that the samples included in this section have been prepared and analyzed using the procedures cited and that the results have been reviewed and approved. Any exceptions or qualifications of substance have been reported in the case narrative.

NETLLAB

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: V0526-04
Client Name: AECOM
Method: 625
Lab Sample ID: System Influent
Matrix: (soil/water/air) WATER
Lab File ID: B053122.D
Sample wt/vol: 1000 (g/ml) ML
Date Sampled: 5/25/2010
Level: (low/med) LOW
Date Extracted: 5/28/2010
% Moisture:
Date Analyzed: 5/31/2010
Concentrated Extract Volume: 1000 (uL)
Dilution Factor: 1.0
Injection Volume: 1.0 (uL)
Analyst's Initials:

CAS NO.	COMPOUND	UNITS: UG/L	Q
56-55-3	Benzo(a)anthracene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
218-01-9	Chrysene	1.0	U
53-70-3	Dibenz(a,h)anthracene	1.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

NELAC LAB

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: V0526-04
Client Name: AECOM
Method: 625
Lab Sample ID: SBLK100528
Matrix: (soil/water/air) WATER
Lab File ID: B053110.D
Sample wt/vol: 1000 (g/ml) ML
Date Sampled: 5/25/2010
Level: (low/med) LOW
Date Extracted: 5/28/2010
% Moisture:
Date Analyzed: 5/31/2010
Concentrated Extract Volume: 1000 (uL)
Dilution Factor: 1.0
Injection Volume: 1.0 (uL)
Analyst's Initials:

CAS NO.	COMPOUND	UNITS: UG/L	Q
56-55-3	Benzo(a)anthracene	1.0	U
50-32-8	Benzo(a)pyrene	1.0	U
205-99-2	Benzo(b)fluoranthene	1.0	U
207-08-9	Benzo(k)fluoranthene	1.0	U
218-01-9	Chrysene	1.0	U
53-70-3	Dibenz(a,h)anthracene	1.0	U
193-39-5	Indeno(1,2,3-cd)pyrene	1.0	U

2C

WATER SEMIVOLATILE SURROGATE RECOVERY

Lab Name: New England Testing Lab Case No.: V0526-04

Lab Code: RI010 Client Name: AECOM

	Sample ID	S1 #	S2 #	S3 #	TOT OUT
01	SBLK100528	54	55	58	0
02	SLCS100528	91	93	106	0
03	SYSTEM INFLUENT	68	69	94	0

QC LIMITS

S1	=	Nitrobenzene-d5	(11-120)
S2	=	2-Fluorobiphenyl	(32-109)
S3	=	Terphenyl-d14	(20-144)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D Surrogate diluted out

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: V0526-04
Method: 8260
Matrix: (soil/water) WATER
Sample wt/vol: 5.0 (g/ml) ML
% Moisture
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: AECOM
Lab Sample ID: System Influent
Lab File ID: C060207.D
Date Sampled: 5/25/2010
Date Analyzed: 6/2/2010
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: ug/L	Q
67641	Acetone	5.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: V0526-04
Client Name: AECOM
Method: 8260
Lab Sample ID: Intermediate
Matrix: (soil/water) WATER
Lab File ID: C052724.D
Sample wt/vol: 5.0 (g/ml) ML
Date Sampled: 5/25/2010
% Moisture
Date Analyzed: 5/27/2010
Soil Extract Volume: (uL)
Dilution Factor: 1.0
Analyst's Initials:
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: ug/L	Q
71432	Benzene	1.0	U
108883	Toluene	1.0	U
1330207	m,p-xylene	2.0	U
100414	Ethylbenzene	1.0	U
95476	o-xylene	1.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

NETLLAB

VOLATILE ORGANICS ANALYSIS DATA SHEET

Case No.: V0526-04
Method: 8260
Matrix: (soil/water) WATER
Sample wt/vol: 5.0 (g/ml) ML
% Moisture
Soil Extract Volume: (uL)
Analyst's Initials:

Client Name: AECOM
Lab Sample ID: VBLK060210
Lab File ID: C060206.D
Date Sampled: 5/25/2010
Date Analyzed: 6/2/2010
Dilution Factor: 1.0
Soil Aliquot Volume: (uL)

CAS NO.	COMPOUND	UNITS: ug/L	Q
67641	Acetone	5.0	U

U=not detected, D=diluted, E=over range (another data sheet is included), J=below limit, B=found in blank

New England Testing Laboratory, Inc.

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: Lyme Garage

Lab Code: RI010 Case No.: V0526-04 SAS No.: AECO SDG No.: AECOM

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	LCS052710	98	103	91	0
02	VBLK052710	97	109	106	0
03	TRIP BLANK	92	102	102	0
04	INTERMEDIATE	101	107	93	0

QC LIMITS

SMC1	=	4-Bromofluorobenzene	(70-130)
SMC2	=	Toluene-d8	(70-130)
SMC3	=	1,2-Dichloroethane-d4	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: New England Testing Laboratory Contract: Lyme Garage

Lab Code: RI010 Case No.: V0526-04 SAS No.: AECO SDG No.: AECOM

	EPA SAMPLE NO.	SMC1 #	SMC2 #	SMC3 #	TOT OUT
01	VBLK060210	105	101	99	0
02	SYSTEM INFLUENT	101	102	95	0

QC LIMITS

SMC1	=	4-Bromofluorobenzene	(70-130)
SMC2	=	Toluene-d8	(70-130)
SMC3	=	1,2-Dichloroethane-d4	(70-130)

Column to be used to flag recovery values

* Values outside of contract required QC limits

D System Monitoring Compound diluted out

Volatile Organics Laboratory Control Spike

Date Analyzed: 05/27/2010 **Sample ID: VLCS052710**

Compound	Spike Added (ug/L)	Spike Result (ug/L)	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
1,1-Dichloroethene	50.0	37.7	75	70	130
Benzene	50.0	47.9	96	70	130
Trichloroethene	50.0	41.1	82	70	130
Toluene	50.0	44.0	88	70	130
Chlorobenzene	50.0	35.3	71	70	130

Volatile Organics Laboratory Control Spike

Date Analyzed: 06/02/2010 **Sample ID: VLCS060210**

Compound	Spike Added (ug/L)	Spike Result (ug/L)	Recovery, %	Lower Control Limit, %	Upper Control Limit, %
1,1-Dichloroethene	50.0	43.0	86	70	130
Benzene	50.0	58.1	116	70	130
Trichloroethene	50.0	49.6	99	70	130
Toluene	50.0	52.8	106	70	130
Chlorobenzene	50.0	43.5	87	70	130

NEW ENGLAND TESTING LABORATORY, INC.
1254 Douglas Ave.
North Providence, RI 02904
1-888-863-8522

0526-04

CHAIN OF CUSTODY RECORD

PROJ. NO. | PROJECT NAME/LOCATION: 60139393-300 BMR parking Garage

CLIENT: AECOM

REPORT TO: Neeraj Ghai

INVOICE TO: Westford Office

DATE	TIME	COMP	GRAB	SAMPLE I.D.	AQUEOUS	SOIL	OTHER	NO. OF CONTAINERS	PRESERVATIVE	TRC	metals	PAHs	Metals	copper	BTEX	PH	REMARKS
5/22/10	8:15		✓	Influent	✓			3	NONE HNO3 HCL	✓	✓	✓	✓				Metals nickel, zinc, iron, chromium-III and hex chromium.
5/22/10	8:19		✓	Intermediate	✓			2	HCL						✓		
5/22/10	8:24		✓	Effluent	✓			5	NONE/HCL HNO3	✓				✓	✓	✓	
				Trip Blank				2	HCL								

Note To the TRC Sample Treat for Interference

Sampled by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Laboratory Remarks	Special Instructions:
Eddie Jeggonath	5/22/10 8:24			Temp. received 4°C	List Specific Detection Limit Requirements: Hold the Effluent sample for BTEX and only analyze if there is a detection in the Intermediate sample
Relinquished by: (Signature)	Date/Time	Received by: (Signature)	Date/Time	Cooled ☐	
Eddie Jeggonath	5/22/10 1000				
Relinquished by: (Signature)	Date/Time	Received for Laboratory by: (Signature)	Date/Time		Turnaround (Business Days)
			5/24/10		